

FREE

DIGITAL VERSION CAN BE
DOWNLOADED FROM OUR WEBSITE
www.mymrt.com.my

INTERCHANGE

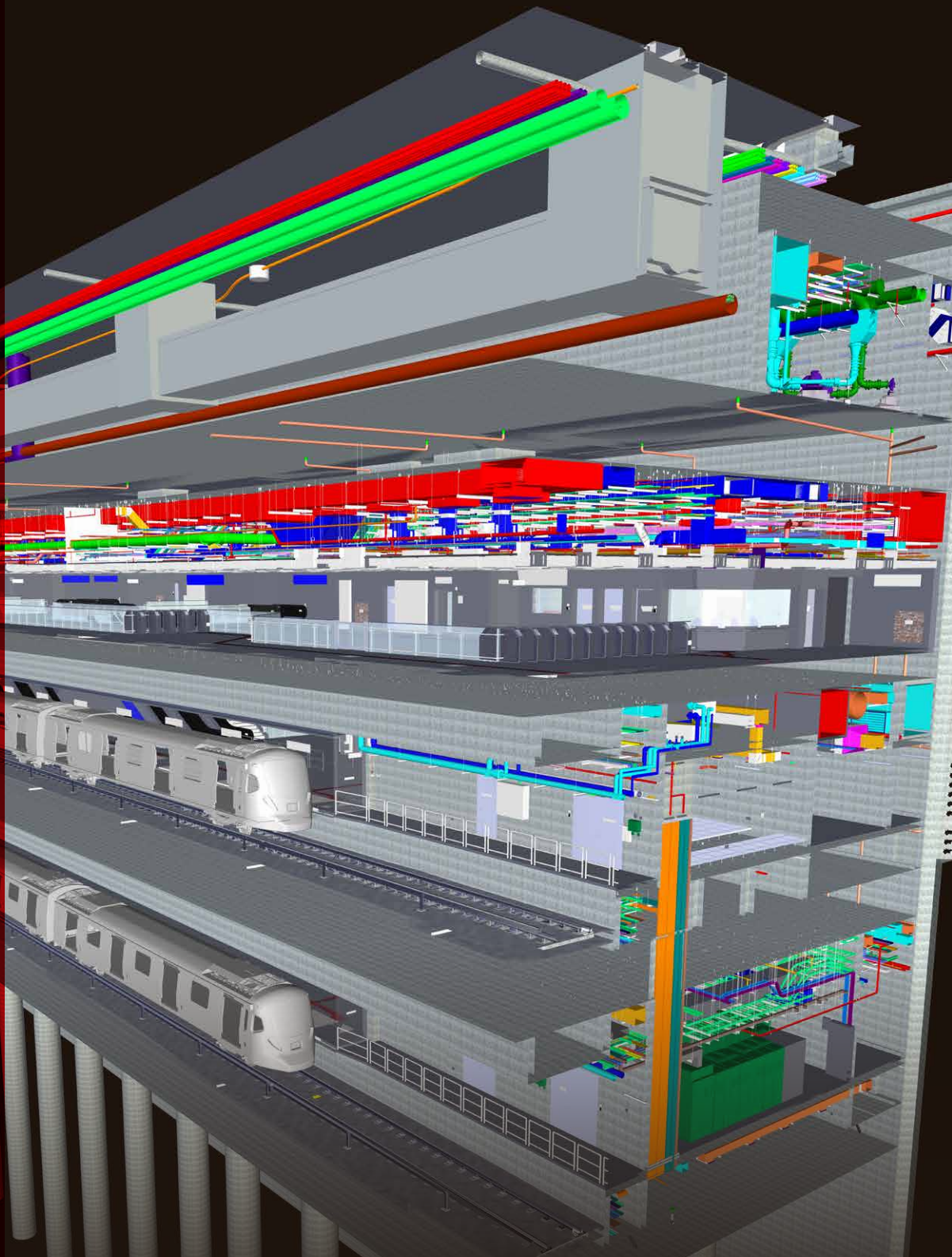
TRANSITION TO A FAST-MOVING SOCIETY



JULY-DECEMBER

2018

PP19209/07/2017(034751)



PAVING THE WAY INTO THE FUTURE WITH BIM TECHNOLOGY

CHIEF SECRETARY TO THE GOVERNMENT VISITS MRT PROJECT ● 8
CENTRALISED LABOUR QUARTERS & SECURITY SEMINAR 2018 ● 13



**Dato' Najmuddin
Abdullah**



Leong Shen-Li



Ean Yaacob



Wallace Soh Chun Hwei



Khairul Azlee



Nur Amalina



Ezreen Siti Juliana



Suzy Kubong



Fakhrurrazi



Puteri Nur
Atika Dayana



Mia
Haziqah



Johan



Wan Aznoor



Hazwan

PUBLISHER & DESIGN

Mass Rapid Transit Corporation Sdn Bhd
Tingkat 5, Menara I & P 1, No. 46, Jalan Dungun
Bukit Damansara, 50490 Kuala Lumpur

PRINTER

CETAK JITU SDN BHD (574632-M)
11, JALAN 24/56, Kawasan J, Keramat Wangsa
54200 Kuala Lumpur

MRT INFORMATION CENTRE

MRT INFORMATION CENTRE BANDAR MALAYSIA NORTH
Bandar Malaysia North MRT Construction Site
Lot 256, Lebuhraya KL-Seremban
50461 Kuala Lumpur

Mon - Fri : 9:00am - 6:00pm

Weekend & Public Holidays: **CLOSED**

MRT CORPORATE HEADQUARTERS

MASS RAPID TRANSIT CORPORATION SDN BHD (902884-V)

Level 5, Menara I & P1, No. 46, Jalan Dungun,
Bukit Damansara, 50490 Kuala Lumpur

We welcome your enquiries and suggestions
Kindly email to feedback@mymrt.com.my

24 HOUR HOTLINE

1800 82 6868



MRTMALAYSIA

www.mymrt.com.my

INTERCHANGE • JULY-DECEMBER 2018

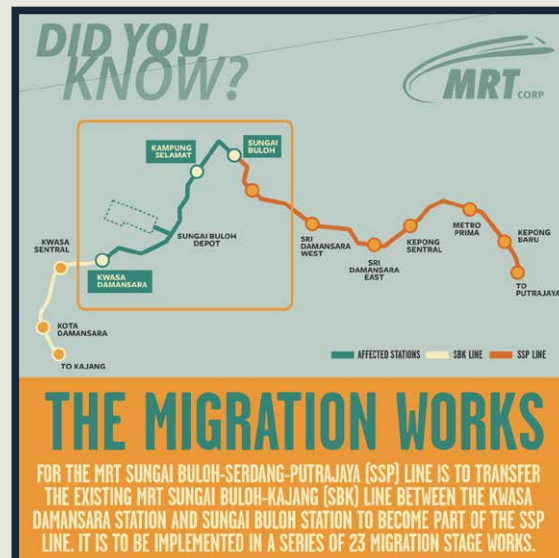
INSIDE THIS ISSUE FEATURES

- 04 PAVING THE WAY INTO THE FUTURE WITH BIM TECHNOLOGY
- 07 WORKS MINISTER VISITS BIRAC FACILITY
- 08 CHIEF SECRETARY TO THE GOVERNMENT VISITS MRT PROJECT
MRT CORP VISITS MACC HEADQUARTERS
- 09 PUBLIC WORKS DEPARTMENT VISITS MRT UNDERGROUND ALIGNMENT
- 10 KEPONG PARLIAMENTARY OFFICE VISITS MRT CORP
TEMERLOH MUNICIPAL COUNCIL GAINS KNOWLEDGE ON MRT PROJECT
- 11 UGANDAN DELEGATION LEARNS ABOUT THE KLANG VALLEY MRT PROJECT
AUDITOR GENERAL'S DEPARTMENT SRI LANKA VISITS MRT PROJECT
- 12 MRT CORP BOARD OF DIRECTORS BRIEFED ON THE MALAYSIAN ANTI-CORRUPTION COMMISSION (AMENDMENT) ACT 2018
MRT CORP ENGAGES WITH MEMBER OF PARLIAMENT FOR BATU
- 13 ENGAGEMENT WITH HULU LANGAT MP
CENTRALISED LABOUR QUARTERS & SECURITY SEMINAR 2018
- 14 MRT CORP EMERGED AS WINNER AT 2018 ESRI MALAYSIA USER
CONFERENCE
BUMIPUTERA CONTRACTORS INTEGRITY AWARENESS
- 15 MRT CORP PUSHES BIG DATA FORWARD IN MALAYSIAN CONSTRUCTION
INDUSTRY
- 18 MRT CORP ENVIRONMENTAL MANAGEMENT CONFERENCE 2018

PROJECT UPDATES

- 16 MRT SUNGAI BULOH-SERDANG-PUTRAJAYA LINE PROJECT UPDATES

HAPPENINGS



DID YOU KNOW?

THE Migration Works for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line is to transfer the existing MRT Sungai Buloh-Kajang (SBK) Line between the Kwaasa Damansara Station and Sungai Buloh Station to become part of the SSP Line when the first phase of operation begins in July 2021.

MRT Sungai Buloh-Kajang (SBK) Line Hotline:

Helpline: 03-7885 2585

Email: suggest@myrapidkl.com.my

Website: www.myrapid.com.my

Facebook: myrapid

Twitter: @askrapidkl | @myrapidkl

Instagram: @myrapidkl



MOVING TOWARDS DIGITAL

Welcome to the latest edition of Interchange.

The Klang Valley MRT Project, being one of the largest infrastructure projects in Malaysia, has achieved several firsts. Besides being the first MRT system in the country, the project has managed to become the benchmark in many areas in the construction sector, such as the timely delivery of a project of such scale within target cost, safety and workers' welfare (accommodation).

I am proud to see that the project has managed to continue being a trend setter, this time in the area of digitalisation in construction. The project is not only the first infrastructure project in Malaysia but one of very few in the world to be given Level 2 Building Information Modelling (BIM) accreditation by Lloyd's Register in December 2018. This means the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line has been recognised as being at the cutting edge of digital technology in construction.

The cover story of this edition of Interchange will show you how the adoption of BIM technology has managed to bring many benefits in the construction of the SSP Line. This has led the Government to make the adoption of BIM in future major infrastructure projects mandatory.

A lot was done in 2018 for the construction of the SSP Line where several significant milestones were achieved, such as the start of tunnelling works and the commencement of track laying works. At the end of 2018, construction of the line was 41% completed.

As the new Chief Executive Officer of Mass Rapid Transit Corporation Sdn Bhd, I am honoured to have been given the opportunity to be part of a project of such importance. The project will benefit the people not only by virtue of them getting a modern, efficient, reliable, safe and green public transport option,

but also from the various spin offs, whether from construction activities or from better access and more efficient mobility.

We at MRT Corp look forward to achieving more milestones in 2019 as we work towards delivering the SSP Line to the rakyat.

Thank you.



ABDUL YAZID KASSIM

**CHIEF EXECUTIVE OFFICER
MASS RAPID TRANSIT CORPORATION SDN BHD**



PAVING THE WAY INTO THE FUTURE WITH BIM TECHNOLOGY

BIM AND THE KLANG VALLEY MRT PROJECT

BUILDING Information Modelling or BIM technology is the process of designing a project, which can be anything from constructing a building to developing a piece of infrastructure like a railway or airport, in a collaborative manner. This is done using one coherent system of computer models rather than separate sets of drawings.

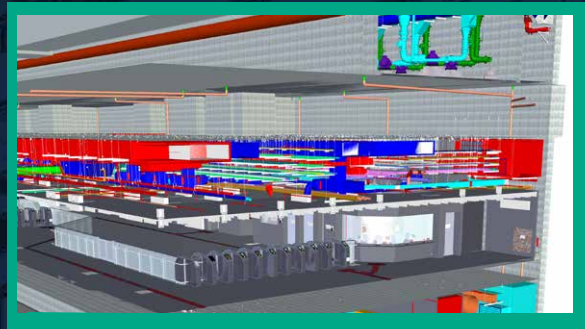
The collaboration at different stages reduces the number of on-site resolution meetings which require the attendance of all stakeholders. BIM technology is key in strategising the procurement process, streamlining tendering criteria by identifying quality and capable contractors, and managing risk along the project. This will help reduce cost significantly once risks are eliminated.

The need for BIM technology is recognised as the solution in increasing precision in construction and reducing instances of design rework. It is often difficult to get the various parties involved in the project - whether architect, engineer or contractor - to communicate collaboratively to achieve a synchronised end result. Designs may clash at various stages, with mismatched information and time lag in information updates resulting in expensive cost consequences. This can be eliminated if its root cause - information management - is tackled.

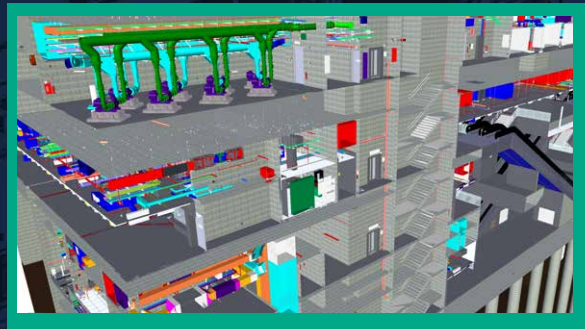
With the success of the MRT Sungai Buloh-Kajang Line which was fully opened on 17 July 2017, there were many lessons learnt which can be applied to subsequent projects. Improvements can be made over time to further raise the quality of the delivery of these projects. In an effort to further improve on cost and project management, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) has decided to adopt BIM technology for the second MRT line, the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line. This was made possible as one of the initiatives under the Klang Valley MRT Project's Industrial Collaboration Programme.

The construction management of a project with a scale as big as the SSP Line can be a daunting task, as it runs over 50km long. Changes in design from the decision-making level may not trickle down accurately nor even reach the many different contractors and subcontractors on time. This is where BIM technology comes to play. All updates and changes are carried out fortnightly, uploaded onto a cloud-based computing system that allows real-time information access.

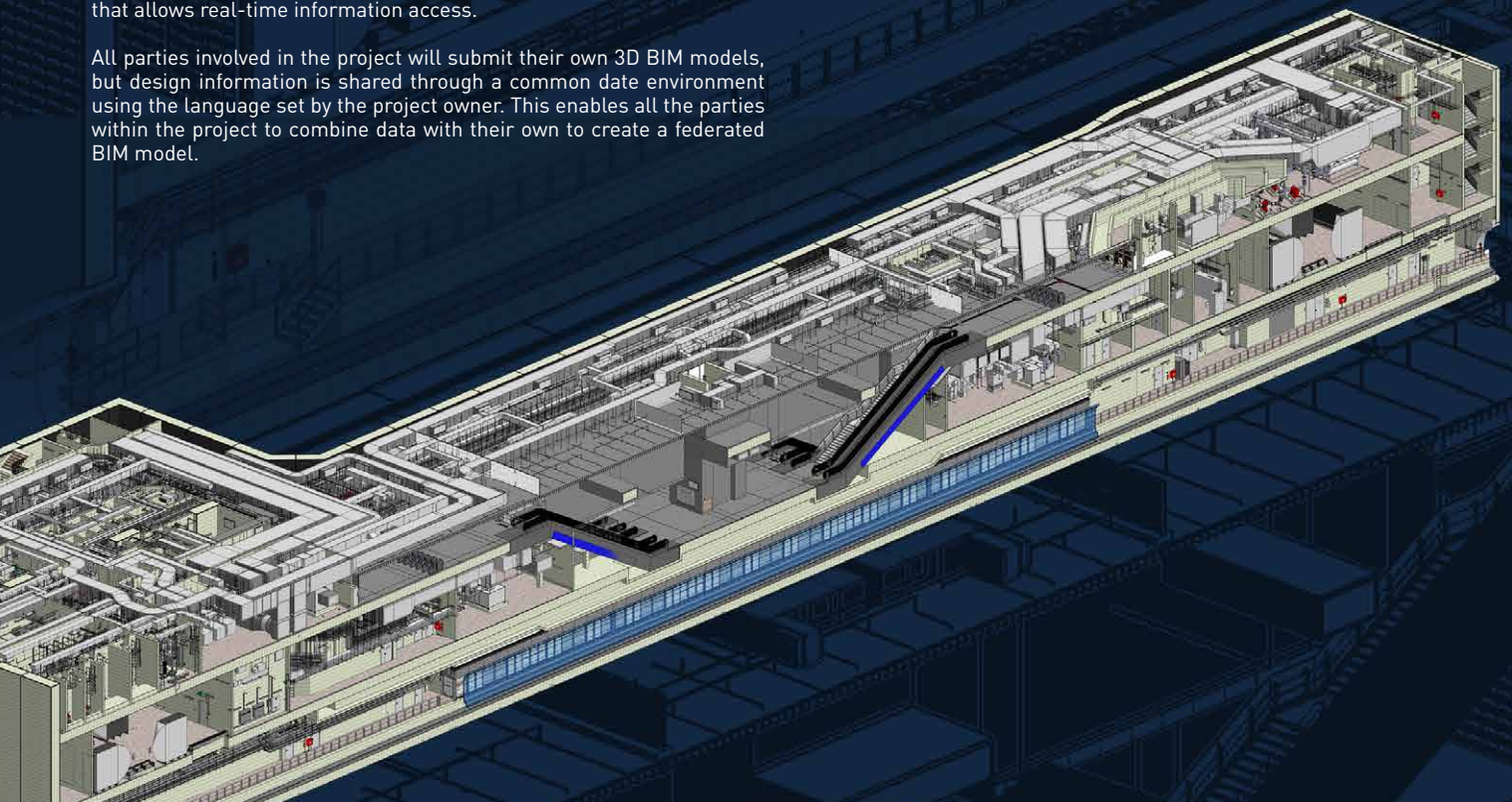
All parties involved in the project will submit their own 3D BIM models, but design information is shared through a common data environment using the language set by the project owner. This enables all the parties within the project to combine data with their own to create a federated BIM model.



COLOURFUL: The visual of the modelled environment can be quite an eye-candy.



INTRICATE: Each detail, information update and change in design can be tracked, monitored and managed efficiently.



WHAT DOES THE BIM TECHNOLOGY BRING TO THE TABLE?

It has been six years since the inception of BIM technology in the Klang Valley MRT Project. Improvements can be seen over time, despite the increased complexities faced in the SSP Line. For example, the number of on-site resolution meetings which require the attendance of all stakeholders have been greatly reduced as the Virtual Design Review allows for design clashes to be identified at earlier stages. BIM technology has been vital in enhancing the overall quality of the project.

SEAMLESS COLLABORATION ENSURING PRECISION AND ACCURACY

Information management and sharing is the essence of BIM technology. The information stored and updated by the various stakeholders in the project, including architects and contractors is shared and updated in real time across all disciplines. Having a unified system, language and platform accessible by all parties ensures accuracy of information and precision in execution at all phases of the project, resulting in fewer mistakes and at the same time, move closer towards the end goal of completing the project on time and within cost.

The cloud-based Azure computing system stores and records information that can be reviewed and approved by the project owner. This gives a clearer idea of design intent for the project, allowing any modification to be carried out before construction begins. Early stages of design reviews allow more opportunities to identify potential issues.

The software within BIM technology can detect any clashes between the various system works, such as a clash between mechanical and electrical systems before they are installed. This reduces the need for change or variation orders, resulting in contained and minimised cost.

EARLY DETECTION AND BETTER MANAGEMENT OF CONFLICTS

Apart from visualising the final product using BIM technology, the project owner can also review the modelled environment at various stages of construction, enabling potential safety and health hazards to be identified. One such application is in the traffic management plan, where it can be modelled to avoid danger and facilitate safe traffic flow during different stages of construction. This helps minimise risk to the public.

ENHANCED SAFETY FOR THE PROJECT

BETTER COST MANAGEMENT THROUGH PROJECT EFFICIENCY

The software within BIM technology tracks information updates and changes in design in real time. With that, the cost consequences of every design change can also be tracked and monitored closely. Through the use of virtual design tools and software such as Digital Engineering Program, project costs and schedules can be better managed.

FIRST INFRASTRUCTURE PROJECT TO ACHIEVE BIM LEVEL 2

As the project owner and developer of the Klang Valley MRT Project, MRT Corp has become the first infrastructure developer in Asia to achieve accreditation for its adoption of BIM Level 2 on 21 December 2018.

The accreditation, in accordance with British Standards, was presented by Lloyd's Register, a renowned international classification society that provides professional services for engineering and technology, for BIM Level 2 adoption for SSP Line.

The accreditation puts the Klang Valley MRT Project as the benchmark for other players in the industry to follow suit, beginning with its value chain and stakeholders involved in the SSP Line as well as future projects which MRT Corp will undertake.

The Klang Valley MRT Project has won several awards in relation to BIM advancements and implementation. Among them are the Bentley Be Inspired Awards for BIM Advancements in the Rail and Transit Category in 2017, and the Asia Geospatial Excellence Award 2017 BIM Level 2 Implementation Throughout the Design and Construction of the Klang Valley MRT Project under the Transport Infrastructure Category.

MRT Corp has certainly broken many barriers in the industry, putting the project at par with infrastructure projects in first world countries that have successfully used BIM technology. Although the adoption of BIM technology in Malaysia is now only at the design and construction stage, BIM will soon be adopted at the operations stage too. Greater emphasis on technology adoption across a project's life-cycle will certainly induce higher productivity.

There is a strong need for project owners to champion and dictate the requirement of BIM Level 2 adoption at all stages of a project. This is because BIM does not only increase precision of construction, reduce instances of design rework and improve safety standards, but it is also an advanced way of working which leverages on digital collaboration. This has become a standard for many governments for public-sector projects in first world countries.

More importantly, embracing digital technology has enabled the Klang Valley MRT Project to improve on productivity, while enabling its workers to acquire new skillsets necessary for BIM standards which will be mandatory in civil engineering projects from 2020 as required by the Construction Industry Development Board (CIDB Malaysia).



Q&A WITH YEAP BEOW HENG

MR Yeap Beow Heng is referred to as the “BIM Champion” in Mass Rapid Transit Corporation Sdn Bhd for his role in pushing for the adoption of Building Information Modelling (BIM). His enthusiasm for BIM comes from the realisation that there is a great need in solving interfacing problems for construction projects.

Graduating from the Royal Melbourne Institute of Technology in Construction Management, Yeap began his career as a site engineer in 1997 and then joined his first MRT project under the Singapore Circle Line project in year 2000. He returned to Malaysia and joined MRT Corp in 2013 where today he is Deputy General Manager in the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line Project Division's Design and Planning Department.

HOW DID YOU BEGIN YOUR CAREER?

With the Singapore Circle Line project, I joined NCC AB, a Swedish construction company as a Coordinator where I was involved in coordinating System and ABWF works with the contractors. My tasks involved resolving site clashes (of the construction kind) and to carry out the necessary inspections with the metro project developer. The project took about seven years to complete. By the end of the project, I was promoted to Coordination Manager. In 2009, I joined SsangYong Engineering for the Downtown Line 2 Project as a Coordination Manager for planning and design. I joined the Klang Valley MRT Project in Malaysia in 2013.

WHERE DO YOU SEE BIM IN THE NEXT TEN YEARS?

Digital engineering will be the way to go. In a way, once we move towards digital engineering, the traditional role of coordinators like myself will be diminished. We will be looking at collaborative workflow, which is what the coordinators are responsible for. Eventually, we will rely on new technology rather than being involved just on paper coordination. We will be moving towards digital. It is all about data, workflow and business process, which are all part of the BIM workflow.

WHAT ARE SOME OF THE MOST NOTEWORTHY CHALLENGES YOU FACE?

One of the biggest challenges I experienced is the lack of understanding of the importance of CSD drawings, which is the combined services drawing. In the SBK Line, we had to spend some time explaining to the contractors on the importance of CSD drawing production. That caused some delay in the progress of the project. Again, BIM is the solution to this problem.

WHAT DREW YOU BACK TO MALAYSIA AND HOW HAS YOUR EXPERIENCE SINCE BEEN?

Most people will not believe me when I say that I came back for the scale of the project and the challenge that comes with it. When I was working on the MRT projects in Singapore, I was involved at the contractor level, whereas with the MRT project here, I am involved at the project owner level.

It has really been a wonderful experience, six years and counting. Some may think Malaysia is not as quick-paced nor as dynamic as other countries but from my experience, it really is different from what is perceived. My experience here has been different from what I had expected. I love the challenges and issues faced here. There is always something to learn.

The first time I have come across BIM was in 2011 when the Singapore government was pushing for BIM to be a mandatory building plan e-submission method for major government projects.

Subsequently, from my experience working in various projects, I realised that coordination was not something that was very synonymous in our culture, especially when we talk about liaising with various different stakeholders. When I first started out, I found that it was difficult for people to understand the importance of interfacing – to capture the requirements at different levels and to make sure that all stakeholders work collaboratively.

Every discipline will be working in their own silos. So, for coordinators like myself, we will have to be the ice-breakers. We have to break all the walls and get everyone to the table and work collaboratively together to ensure that the design intent is identified and also to resolve potential clashes that may arise.

BIM is the solution to all these problems.

TELL US ABOUT YOUR INVOLVEMENT WITH BIM?

HOW DID BIM BECOME A PASSION OF YOURS?

To be very frank, I was not convinced that harnessing BIM technology for the project could improve the productivity and quality of the project in the early stages of getting to know BIM. This is because most of the BIM technology implementation was merely building a 3D model to fulfil the building plan submission and visual coordination. This was not a comprehensive approach.

BIM technology only become my passion during the early phase of SBK Line in 2014 when I saw how the contractor and consultant faced delays in their milestone submissions due to issues with design management and coordination with different disciplines, as well as failures to identify clashes in the Combined Services Drawings.

MRT Corp organised a study trip in 2015 to the United Kingdom to engage the Bentley Information Academy and consultants on their experience and lessons learnt from the Crossrail Project, which is the largest metro construction project in Europe. I was inspired by how the Crossrail project team managed the exchange of project data through a Common Data Environment with a common business process, allowing all project information to be exchanged without loss or contradiction throughout the project life cycle. It demonstrated how a client should spearhead and lead in establishing a clear set of information requirements to achieve the desired outcome.

It was after this study trip that I started to prepare a road map for MRT Corp's digital transformation and submitted the White Paper for the BIM Implementation Plan for the management to embrace BIM for the SSP Line. 🚇



WORKS MINISTER VISITS BIRAC FACILITY

NEWLY appointed Works Minister YB Tuan Baru Bian visited the Building Information Modelling in Rail Academy (BIRAC) on 5 July 2018. His visit to the academy which is located at Sunway Putra Tower Kuala Lumpur, was his first stop in a series of visits to various government agencies.

BIRAC is a facility that is owned by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) and it is currently placed at the myBIM Centre. It will act as the central depository for the Klang Valley Mass Rapid Transit Building Information Modelling (BIM) standards and processes.

Construction Industry Development Board

(CIDB) Chairman Tan Sri Dr Ir Ahmad Tajuddin Ali, who accompanied Baru in the walkabout of the myBIM Centre, explained to him on how the BIM technology will increase efficiency within and between organisations, allowing a more coordinated project delivery.

Guiding the entourage during the visit was CIDB eConstruct General Manager Encik Mohammad Farid A. Hamid, who explained that the BIM training offered at the myBIM Centre will produce BIM capable people in the industry to not just improve on the drawings and planning, but to also improve on the operations and maintenance side once the project is completed.

A number of MRT Corp employees were currently undergoing training at BIRAC, as the BIM technology offers the advantage of time and budget savings for building and infrastructure projects.

As part of the Industrial Collaboration Training (ICP), MRT Corp and Technology Depository Agency (TDA) has mandated the requirement of BIM training for all elevated work package contractors of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line, with the aspiration to drive industry practices and standards, focusing on common processes to advance and improve information creation and project information flow.

The initiative also aims to advance project best practices and processes via awareness sessions, forums, targeted seminars and working groups.

At the end of the visit, Baru commended the effort by those in the industry who actively seek to improve on their knowledge and skills and wished the students in the training centre their best in their endeavours. 🚗



COLOURFUL: The entrance of myBIM Centre is modern, spacious and enticing.



SPACIOUS: The presentation area is spacious enough to seat up to 40 pax comfortably.



INFORMATIVE: The entrance area is laden with infoboards.



CHIEF SECRETARY TO THE GOVERNMENT VISITS MRT PROJECT

THE new Chief Secretary to the Government, Datuk Seri Dr Ismail Bakar made a visit to the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line sites of the Bandar Malaysia North and Bandar Malaysia South Stations on 15 October 2018.

The visit was part of his progress review of mega projects in Kuala Lumpur.

Former Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Chief Executive Officer, Dato' Sri Shahril Mokhtar was on hand to welcome Ismail and his entourage which included officers from his office, Economic Planning Unit, Implementation and Coordination Unit, Ministry of Finance and Ministry of Transport.

Upon arrival, MRT Corp SSP Line Project Director, Dato' Amiruddin Ma'aris gave a short introduction on the agenda of the visit.

The tour of the sites started with Ismail going to the viewing deck of Bandar Malaysia North Station for a vantage view of the site. Here, he was updated on the project progress by Amiruddin.

Ismail then visited the Tunnel Boring Machine (TBM) Control Centre where he learnt about how the TBMs were controlled and monitored. He took this opportunity to ask more about the tunnelling works which were answered by MRT Corp as well as MMC-Gamuda KVMRT (T) Sdn Bhd personnel. 🇲🇾



MRT CORP VISITS MACC HEADQUARTERS

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp), led by then Chief Executive Officer Dato' Sri Shahril Mokhtar visited the Malaysian Anti-Corruption Commission (MACC) Headquarters in Putrajaya on 27 July 2018.

Accompanied by the MRT Corp Leadership Team, Shahril was invited to meet the new MACC Chief Commissioner Dato' Sri Mohd Shukri Abdull and his team.

Shukri was impressed with the efforts that MRT Corp had made in combating corruption issues in the organisation. The enthusiasm showed by the organisation was second-to-none and other mega infrastructure projects in the country should follow suit.

MACC also announced that it planned to advertise corruption-related advertisements in MRT trains and stations. This would enable it to increase the level of awareness to users of the MRT service.

Shahril said that in line with the Integrity Pact that was previously signed by MRT Corp, Work Package Contractors (WPC) for the project were also required to conduct Integrity Awareness programmes. This would ensure that even at the WPC level, combating corruption issues would be a priority for those involved with the project.

Moving forward, Shukri and his team planned to visit MRT Corp's Corporate Headquarters to further strengthen the relationship between the two organisations. 🇲🇾

PUBLIC WORKS DEPARTMENT VISITS MRT UNDERGROUND ALIGNMENT

SIXTY-SIX individuals from various departments in the Public Works Department, Construction Industry Development Board Malaysia (CIDB Malaysia) and Bumiputera Contractors for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line visited the MRT Project on 1 August 2018 at the MRT Information Centre Bandar Malaysia North.

The visitors were welcomed by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) SSP Line Underground Tunnel Director Mr Blaise Mark Pearce, MRT Corp SSP Line Underground Station Director Mr Keith Allenby and MRT Corp Administration and Bumiputera Relations General Manager Encik Zarif Zainul.

The visit began with an overview given by Pearce about the MRT Project. He explained on the importance and need for an MRT service in Kuala Lumpur and the steps taken to ensure that the best alignment was selected during the pre-construction stage, in ensuring that the alignment covered as many retail, commercial and housing areas.

Pearce also went on to explain that for the MRT Project, Centralised Labour Quarters (CLQ) were specifically built for the construction workers. At the peak of the project, a total of 13,000 workers would be working for the project, and the CLQ helped to centralise their accommodation needs. A positive outcome from this was that social problems could be mitigated.

Allenby then took over and talked about the underground stations for the SSP Line. One of the topics he discussed was the features of each of the 11 underground stations. Here, he explained that the depth levels of the stations and the length of each stations were different, due to the geographical location.

The future Ampang Park MRT Station, that would be integrated with the Ampang Park LRT Station, would be the deepest underground station at 45 metres deep. It would have five levels to cater for the needs of the users of the MRT service. Besides that, challenges that were faced by engineers when constructing underground stations such as ground conditions and working at site with other existing rail services were also mentioned.

Ensuring that stakeholders were well-managed was also key when constructing a mega project of this kind and sufficient prior information needed to be disseminated to them. Among the major issues faced were road closures due to ongoing construction works.

Zarif then proceeded to give a talk about Bumiputera participation in the MRT Project. Prior to being able to be shortlisted for a particular contract, these contractors had to go through a screening process conducted by Bahagian Pembangunan Kontraktor dan Usahawan (BPKU). A balloting session would then be organised to allot their respective contracts, of which they would be eligible only upon obtaining approval from BPKU.

Building upon the success of the MRT Sungai Buloh-Kajang Line (SBK Line), the Government of Malaysia had allocated 45% at the total value of contracts for the SSP Line specifically for Bumiputera contractors.

To date, a total of RM 14.03 million worth of contracts had been awarded. An explanation on the way Bumiputera contractors were selected for contracts for the SSP Line was also mentioned.

A walkabout to the observation deck of the MRT Bandar Malaysia North Station construction site was then led by MRT Corp Senior Project Manager II Encik Mohd Salim Abdul Wahid assisted by MMC-Gamuda KVMRT (T) Sdn Bhd Bandar Malaysia North Station Construction Manager Mr Ng Chee Hong.

Lunch was then served to the visitors. 🍽️



KEY INFORMATION: MMC-Gamuda KVMRT (T) Sdn Bhd Bandar Malaysia North Station Construction Manager Mr Ng Chee Hong (far right) explaining about tunnelling works for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line.





KEPONG PARLIAMENTARY OFFICE VISITS MRT CORP

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) received visitors from the office of the Kepong Member of Parliament YB Tuan Lim Lip Eng on 9 August 2018.

The three representatives were Mr Yew Jia Haur, Mr Raymond Soh and Mr Dic Lai who were invited to the MRT Information Centre (MIC) at Jalan Sultan Azlan Shah. They were given a briefing on the progress of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line especially on the stations in the vicinity of Kepong and Jinjang.

Opening remarks for the visit were given by MRT Corp Strategic Communications and Stakeholder Relations Manager Mr Wallace Soh Chun Hwei.

MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd (MMC-Gamuda) as the Project Delivery Partner for the MRT SSP Line then had its Public Relations and Stakeholder Management Senior Manager Encik Mohar Zainal Abidin provide an overview of the project.

Apart from receiving information about the Project progress, the visitors were also informed of the various stakeholder engagement sessions held by MRT Corp and MMC-Gamuda.

Yew, who is the political secretary to Lim, also exchanged his views on the concerns and feedback received from the public regarding the project.

Moving forward, Yew and his team hoped that constant communication between MRT Corp and his office would continue during the construction period of the Project.

The session ended with lunch being served to the attendees. 🍽️



- **PROJECT INFORMATION:** MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd Public Relations and Stakeholder Management Senior Manager Encik Mohar Zainal Abidin (middle) providing information about the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line.

TEMERLOH MUNICIPAL COUNCIL GAINS KNOWLEDGE ON MRT PROJECT

THE Temerloh Municipal Council visited the MRT Information Centre at Seri Kembangan on 17 July 2018 to gain knowledge about the Mass Rapid Transit (MRT) Project.

These 39 individuals were led by Council President Dato' Azlan Mohd Yaman.

These visitors were welcomed by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Strategic Communications and Stakeholder Relations Director Dato' Najmuddin Abdullah accompanied by MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd (MMC-Gamuda) Public Relations and Stakeholder Management Head Encik Zamri Hassan.

Najmuddin started by explaining the high car usage in Kuala Lumpur. This was because public transportation in the city had a reputation of not being as reliable as using private vehicles. Most households in the city had multiple cars due to loans that were easily obtained from banks.

Explanation about the concept of Centralised Labour Quarters in the MRT Project was of high interest to the attendees. They were impressed with MRT Corp's efforts in ensuring that the welfare of construction workers was being taken care of. CLQ's were specifically built for them to live in and free transportation to project sites were offered to them.

MRT Corp's hotline that was specific for the public giving feedback on issues regarding the SSP Line was also mentioned by Najmuddin. He explained that the hotline sometimes acted as a channel for complaints that did not involve the Project. The Project Delivery Partner, MMC-Gamuda that manages the hotline would still try to provide assistance to any particular matter mentioned by the caller.

Najmuddin also indicated that the usage of Touch 'n Go was highly encouraged when using the MRT service as users of the service would receive a 20% discount when using it.

The visit ended with lunch being served. 🍽️



- **APPRECIATION:** The individuals from Temerloh Municipal Council listening to the presentation given about the MRT Project.



- **SATISFIED VISITORS:** Group photo of the visitors from Temerloh Municipal Council outside the MRT Information Centre, Seri Kembangan.



■ **EASY ACCESS:** The delegates entering the automatic fare collection gate.

UGANDAN DELEGATION LEARNS ABOUT THE KLANG VALLEY MRT PROJECT

A DELEGATION from the Ugandan Ministry of Lands, Housing and Urban Development was briefed on the Klang Valley MRT Project as part of their visit to Malaysia on 2 October 2018.

The briefing was given at the Department of the Director-General of Lands and Mines at Wisma Sumber Asli in Putrajaya. The delegation of eight which was led by Minister Ms Betty Amongi, was on a benchmarking visit here to learn about Malaysian legislation regarding land and land acquisition.

The briefing was given by Mass Rapid Transit Corporation Sdn Bhd Strategic Communications and Stakeholder Relations General Manager Mr Leong Shen-li, who also spoke about land acquisition issues for the KVMRT Project. Accompanying him was Commercial and Land Management Assistant General Manager Encik Azhar Abdul Aziz.

After the briefing session, the delegation took a ride on the MRT Sungai Buloh-Kajang Line from the Stadium Kajang Station to the Tun Razak Exchange Station. 🚇



AUDITOR GENERAL'S DEPARTMENT SRI LANKA VISITS MRT PROJECT

EIGHTY delegates from the Auditor General's Department of Sri Lanka visited the Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Corporate Headquarters on 13 July 2018. The visit was part of a 12-day programme that was organised by the National Audit Department of Malaysia.

The delegates were attending a Performance Audit Training Programme from 9 July 2018 to 20 July 2018 and were based in Akademi Audit Negara, Bandar Enstek, Negeri Sembilan.

The aim of the programme was to increase awareness on principles, practises and performance in auditing processes in the public sector as well as sharing experiences on specific audits in the environmental, water, construction and information technology sectors.

MRT Corp Strategic Communications and Stakeholder Relations Director Dato' Najmuddin Abdullah welcomed the delegates and provided an overview of the project to them.

He explained the factors considered in constructing an MRT Project and the decisions that were made when determining the alignment.

With regard to delivery of the project and ensuring that it was within cost, he said that MRT Corp rigorously worked hard to ensure that construction cost was kept within the budget.

The visit ended with tea being served. ☕



■ **IN SESSION:** Mass Rapid Transit Corporation Sdn Bhd Board of Directors and Leadership Team listening intently to the explanation about the Malaysian Anti-Corruption (Amendment) Act 2018.

MRT CORP BOARD OF DIRECTORS BRIEFED ON THE MALAYSIAN ANTI-CORRUPTION COMMISSION (AMENDMENT) ACT 2018

THE Board of Directors and the Leadership Team of Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) underwent a briefing on the Malaysian Anti-Corruption Commission (Amendment) Act 2018 on 18 October 2018.

The briefing on the amendment with regards to Corporate Liability was given by MACC Deputy Public Prosecutor Puan Norlizati Izhani Zainal@Zainol at the MRT Corp Corporate Headquarters.

Norlizati said the amendment consisted of a new Section 17A of the Act which covered the 'offences by commercial organisation'.

The amendment was seen to be of high relevance to MRT Corp as an organisation for it constantly dealt with third party organisations such as vendors or agencies in its everyday business dealings. Under the new amendment, the organisation would be penalised should

any employee breached it, unlike previously, where only the sole individual would be held responsible and faced the repercussions.

Questions and explanations of the amendment were answered by Norlizati as she realised the high level of interest shown by the attendees on the day.

She also shared that the amendment was incorporated on 1 October 2018 and would be in effect by 2020.

Norlizati highlighted that previously, a Corruption-Free Pledge was signed and read under oath by all MRT Corp employees in front of the former MACC Chief Commissioner Tan Sri Dzulkifli Ahmad. Several other integrity knowledge sessions were also conducted for MRT Corp employees. These were seen as efforts by MRT Corp in combating corruption. 🇲🇾



MRT CORP ENGAGES WITH MEMBER OF PARLIAMENT FOR BATU

THE Member of Parliament for Batu, YB Tuan P. Prakabaran, made a visit to the MRT Information Centre (MIC) at Jalan Sultan Azlan Shah on 21 August 2018 for a briefing session on the progress of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line. His constituency was the location for both V203 work package and the underground section of the MRT SSP Line.

The session began with opening remark given by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Strategic Communications and Stakeholder Relations Director Dato' Najmuddin Abdullah.

MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd Public Relations and Stakeholder Management Senior Manager Encik Mohar Zainal Abidin then provided information about the elevated section of the project. MMC-Gamuda KVMRT (T) Sdn Bhd (MGKT) Public Relations and Stakeholder Management Manager Mr Steven Austin then presented on the underground section of the project.

Among the topics discussed were traffic management where the current and future plans for road diversions were deliberated. MRT Corp, MMC-Gamuda and MGKT informed Prakabaran that mitigation measures had been taken to reduce the impact of construction activities to the public.

The MP also shared his concerns on traffic management, road conditions and other public-related inconveniences which MRT Corp, MMC-Gamuda and MGKT were working together closely in ensuring that these concerns were being managed.

During the session, Prakabaran also enquired on any corporate social responsibility (CSR) activities carried out in the area. MMC-Gamuda explained that the CSR works done would usually involve stakeholders affected by the MRT Project and gave a few examples of CSR done with schools such as SK Kampung Batu and SMK (P) Jalan Ipoh.

The session ended with an afternoon tea served to all attendees. 🍵

ENGAGEMENT WITH HULU LANGAT MP

OFFICIALS from Mass Rapid Transit Corporation Sdn Bhd (MRT Corp), visited the Pusat Khidmat Rakyat Parlimen Hulu Langat, Taman TTDI Grove to meet its newly elected Member of Parliament YB Tuan Hasanuddin Mohd Yunus on 28 September 2018.

Hasanuddin was briefed about the MRT Sungai Buloh-Kajang (SBK) Line and the project progress of the upcoming MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line by MRT Corp Strategic Communications and Stakeholder Relations Director Dato' Najmuddin Abdullah and MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd Public Relations and Stakeholder Management Head Encik Zamri Hasan.



During the session, Najmuddin gave an overview of the Mass Rapid Transit (MRT) Project and talked primarily about the SBK Line as the alignment goes through the Hulu Langat district, which is under Hasanuddin's constituency.

Stakeholder management activities where various engagement sessions organised

with members of the public in Hulu Langat by MRT Corp and the Project Delivery Partner, MMC-Gamuda prior to the construction of the project were highlighted.

Since the SBK Line is now fully operational, Zamri mentioned that any operational complaints that users might have should be directed to the operator of

the service, Prasarana Malaysia Berhad.

Hasanuddin appreciated the efforts shown by MRT Corp and MMC-Gamuda in meeting him so that he could have a clear understanding about the MRT Project. 📞

CENTRALISED LABOUR QUARTERS & SECURITY SEMINAR 2018

A SEMINAR on Centralised Labour Quarters (CLQ) and Security was organised by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) on 26 July 2018.

It was held at the KVMRT Training Centre in Sungai Buloh. This was the second seminar of its kind with the first being organised in 2017.

The aim of this seminar was to communicate current laws, policies on code of practices and understand the way forward for workers' accommodation.

Attendees of the seminar were from MRT Corp, MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd as the Project Delivery Partner for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line, Work Package Contractors (WPC) for the Project and several government agencies.

The seminar was officiated by MRT Corp CLQ, Safety, Security, Health and Environment Head Encik Azhar Sofah.

MMC-Gamuda KVMRT (T) Sdn Bhd CLQ Manager Mr Visvanathan Virappan kicked off the seminar with an overview of the current living conditions of construction workers in the MRT Project.

Since the initiative of the CLQ construction for the MRT Project in 2012, it has reduced the turnover rate of workers and medical leave but most importantly increased construction workers' performance.

He also gave a presentation titled 'A Human Approach: The Innovation is in The Concept of Holistic Approach to Managing Foreign Workers,' in which he explained the harsh



reality that is faced in Malaysia such as those living in rumah kongsi (shacks built at construction site) and the lack of water being accessible to them.

The next speaker for the day was Ministry of Home Affairs Assistant Secretary Mr Gary Albert Jimbih. He talked about 'Private Agency Act 1971- Rules and Regulation' and discussed about security guards in Malaysia.

He also highlighted that there are 799 security companies of which 77 percent of the guards were local whilst the remaining were made up by foreign nationals, mostly Nepalese. He also explained about the six-day training that the guards went through before being appointed as security guards.

Puan Noraidah Basri, an architect from the Shah Alam Municipal Council (MBSA) then took the floor to talk about 'Temporary Building Construction, Best Practice at Site.'

She also explained that MRT Corp was the best organisation with best practice at site. The project ensured that all permits were obtained before works began and also the surrounding stakeholders of the project were well-aware of construction works that were being done. This would help mitigate the number of complaints about construction works.

An interesting topic on 'Foreign Workers Threat in Malaysia' was presented by Royal Malaysia Police (PDRM) Superintendent Mr Nagalingam Murugayah.

Due to the influx of foreign workers' presence, the authorities needed to be on high alert for any problems that they might cause. Terror threats in the Islamic State and conflicts such as those in Iraq and Syria needed to be identified as they could contribute to unwanted problems when working in Malaysia.

The final speaker of the seminar was Dr Nofi Yuliani from the Selangor Health Ministry who presented on 'Introduction of Diseases and Injuries That Will Occur in the Workplace'.

She highlighted that there were many injuries and repercussions that might occur without people noticing. This needed to be monitored and employers needed to be aware about providing a conducive and comfortable workplace for their employees.

The seminar was a success as all attendees managed to take steps in improving and gaining further understanding about foreign workers' in the country. 📞



EMUC2018

ESRI MALAYSIA USER CONFERENCE



MRT CORP EMERGED AS WINNER AT 2018 ESRI MALAYSIA USER CONFERENCE

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) emerged as one of the winners at the 2018 Esri Malaysia User Conference held at Kuala Lumpur Convention Centre on 25 October 2018.

Esri produces software on Geographic Information System (GIS) technology and more specifically, Esri's world-leading ArcGIS platform.

The Mass Rapid Transit (MRT) Project was triumphant in the GeoInnovation Award, an award that recognises both public and commercial organisations for their innovative use of geospatial technology in addressing real-world challenges in industries and communities.

The project triumphed over a thousand other organisations that were assessed. MRT Corp

received this award together with Perbadanan Putrajaya, Jabatan Kerja Raya Sabah, Bahagian Geospatial Pertahanan, Polis DiRaja Malaysia, U Mobile Sdn Bhd and Majlis Bandaraya Iskandar Puteri.

Using the application of GIS technology for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line to foster collaborative environment between decision makers across the transportation industry, it has set the benchmark for other organisations looking to undertake the same initiative.

MRT Corp is also the first organisation to use a cloud-based GIS deployment in Asia that fully integrates with Building Information Modelling and Reality Modelling to support the construction of the MRT SSP Line.

MRT Corp was represented by Planning and Design Department Deputy General Manager Mr Yeap Beow Heng and Senior Manager Encik Aswadi Yusof during the presentation ceremony.

At the conference, Aswadi also gave a presentation titled 'An Exciting New Era for Infrastructure Design.' In his presentation he explained the application of Esri's software in the MRT Project. Using the software, soil conditions of the upcoming underground stations that are to be built for the project can be assessed prior to construction works.

A 3D visual representation of the upcoming Titiwangsa MRT Station was also shown to the audience to further understand the incorporation of Esri's software to the MRT Project. 📍



MRT CORP PUSHES BIG DATA FORWARD IN MALAYSIAN CONSTRUCTION INDUSTRY

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) took part in a one-day forum organised by the Construction Industry Development Board Malaysia (CIDB Malaysia), titled Statistics, Indices in Construction and Automation 2018.

The forum was held on 14 August 2018 at Berjaya Times Square Hotel, Kuala Lumpur and was officiated by Deputy Works Minister YB Tuan Mohd Anuar Mohd Tahir.

Themed 'Building a Big Data Community for Construction in Malaysia', the event enabled construction industry players to discuss and gain more profound insights on the potential of Big Data analytics in transforming the Malaysian construction industry into becoming more productive.

"Big Data helps MRT Corp and its partners improve the design process, reduce risk and increase efficiency in the construction of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line. It can also provide valuable insights that can minimise disruption during the construction and operation stages through smart applications and sensors," said MRT Corp Planning and Design Deputy General Manager Mr Yeap Beow Heng during his presentation.

MRT Corp is currently applying Big Data in its Digital Engineering Programme which

comprises of Building Information Modelling, Geographic Information System, Reality Capture and 3D Laser Scanning.

In line with the Big Data initiative, MRT Corp and the underground works contractor for the Project, MMC-Gamuda KVMRT (T) Sdn Bhd are going paperless at all MRT SSP Line underground construction sites and will rely only on mobile field construction applications.

These applications and cloud-based construction management systems are currently being deployed to automate the work process to reduce paper-based applications while capturing all sites related applications and permits digitally. 📱

BUMIPUTERA CONTRACTORS INTEGRITY AWARENESS

THE Bumiputera Contractors for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line had an integrity awareness programme organised for them which was held at the Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Corporate Headquarters on 4 September 2018.

All 57 contractors with Construction Industry Development Board (CIDB) Grades G1-G6 that were awarded contracts with the Project attended the programme. It was organised collaboratively between the MRT Corp Integrity Unit and MRT Corp Administration and Bumiputera Relations Department.

The session began with a talk related to corruption cases in construction industry in

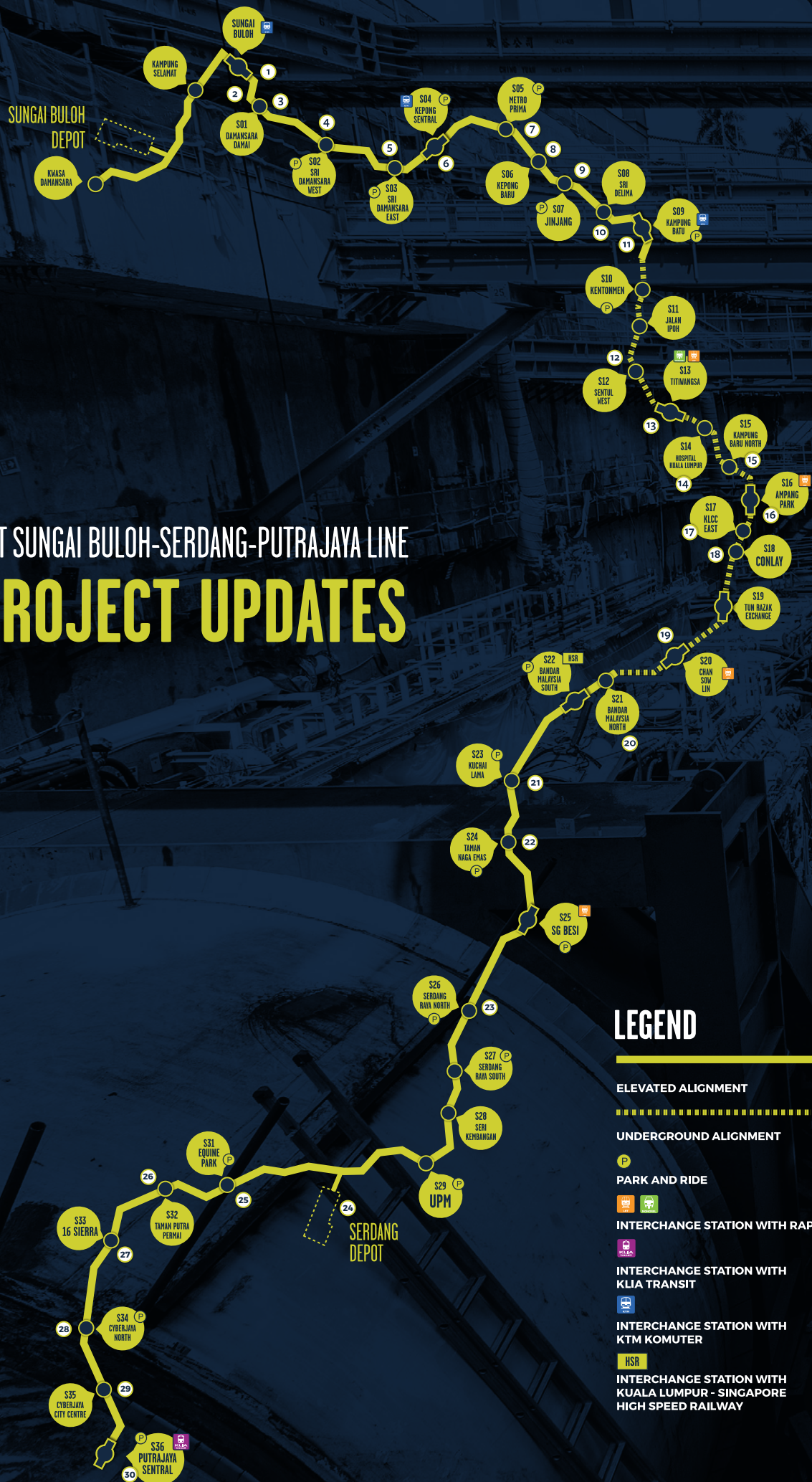
Malaysia. The talk was given by MRT Corp Integrity Unit Senior Manager Mr Gunalan Perumal, who then went on to provide examples of corruption cases in the construction industry. Subsequently, MRT Corp Integrity Unit Assistant General Manager Encik Muhammad Sree Abdullah gave a talk on 'Anti-Bribery Policy of MRT Corp'. The contractors were briefed particularly on the No Gift and Whistleblower Policies.

They were reminded on MRT Corp's stringent No Gift Policy and that all form of gifts received or given as gifts should not be accepted. Gifts could be used as 'bait' by agencies to contractors and they would want something in return.

The final session was delivered by MRT Corp Chief Integrity Officer Dato' Zainal Adam. He had a dialogue session with the contractors on issues related to them. During this session he also highlighted several improvements which needed to be done especially those related to Bumiputera contractors.

Commenting at the end of the session, Zainal hoped that this awareness programme will help mitigate any potential issues that might arise from contractors during the construction phase of the MRT SSP Line. 🚇

MRT SUNGAI BULOH-SERDANG-PUTRAJAYA LINE PROJECT UPDATES



1



Erection of trestle system for segmental box girder launch near the IGB International School in Sungai Buloh.

2



Aerial view of advancing launching gantry works near the ramp heading towards the Sungai Buloh Toll.

3



Platform preparation for station utility building at the Damansara Damai MRT Station site.

4



Erection of precast T-shape segments at the Sri Damansara West MRT Station site.

5



Aerial view of station work and viaduct noise barrier poles installation at the Sri Damansara East MRT Station site.

6



Mould installation for concreting works in progress at the Kepong Sentral MRT Station site.

7



Segmental box girder launch at the Metro Prima MRT Station site.

8



Construction of Entrance 2 of the Kepong Baru MRT Station.

9



Ground view of the segmental box girder and T-beam launching works for the Jinjang MRT Station concourse.

10



Pile cap construction at the Sri Delima MRT Station site.

11



Segmental box girder erection works using the launching gantry method at the Kampung Batu MRT Station site.

12



Works of roof slab construction of Entrance B for the Sentul West MRT Station.

13



Tunnel boring machine launching facilities setup at the Titiwangsa MRT Station site.

14



Aerial view of the Hospital Kuala Lumpur MRT Station site with diaphragm wall construction works and wet speed mixing activities.

15



Intervention block construction activities developing at the Kampung Baru North MRT Station site.

16



Demolition works of former Ampang Park Shopping Centre taking place next to the Ampang Park MRT Station site.

17



Aerial view of the KLCC East MRT Station site.

18



Excavation works at the Conlay MRT Station site.

19



Aerial view of the Chan Sow Lin MRT Station site.

20



Concourse slab formation at the Bandar Malaysia North MRT Station site.

21



Pile cap construction works at the Kuchai Lama MRT Station site.

22



Aerial view of portal beam construction works at the Taman Naga Emas MRT Station.

23



Preparation for ground platform and access for launching work at the Serdang Raya North MRT Station site.

24



Sub-ballast construction at the Serdang Depot site.

25



Ongoing erection of precast T-shape cross beam at the Equine Park MRT Station site.

26



Pier column construction at the Taman Putra Permai MRT Station site.

27



Erection of segmental box girder at the 16 Sierra MRT Station site.

28



Aerial view of segmental box girder launching at the Cyberjaya North MRT Station site.

29



Aerial view of segmental box girder launching works at the Cyberjaya City Centre MRT Station site.

30



Launching of T-beam at the Putrajaya Sentral MRT Station site.



THE Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Environmental Management Conference 2018, was held at the KVMRT Training Centre, Sungai Buloh on 22 November 2018. This conference was the third of its kind after the inaugural edition in 2016.

With the theme 'Good Air Quality With MRT', the aim of the conference was to create awareness and understanding on air quality management at MRT Project sites. MRT Corp, MMC Gamuda KVMRT (PDP) SSP Sdn Bhd, as the Project Delivery Partner for the project and Work Package Contractors for the project were invited for this conference.

Department of Environment (DOE) Deputy Director General Puan Norlin Jaafar officiated the day's proceedings. In her opening speech, she commended MRT Corp for its various initiatives in raising awareness about preserving the environment especially with the reduction of plastic waste.

MRT Corp Standard and Compliance Director Encik Mohd Yusof Kasiron also took the floor and extended his gratitude for the continuous support by various government organisations in making MRT Corp's Environmental Conference a success.

Mr Tan Poh Aun, a consultant from SOx NOx Asia Sdn Bhd started the conference by giving a talk about Air Pollution Control and the best management practices. He said the general public had negative perceptions about construction sites, especially with dust issues, hence he highlighted about the various ways in which construction workers should take in maintaining good quality of air. Tan also went through the Malaysian Ambient Air Quality Standard 2013. This document underlined the actions that should be taken to avoid creating unnecessary dust through proper project planning.

Next, Puan Farah Diyana Rusli from DOE Putrajaya gave an overview of the Environmental Quality (Clean Air) Regulation 2014. She spoke about the various requirements of the regulation and the improvements of the act since its previous version. Farah also highlighted the importance of declaration of works especially when fuel and fire burning equipments were involved. These works needed to be declared to DOE prior to beginning of works so that the authorities were able to ensure that all processes would be run smoothly.

A research paper entitled 'Climate Change Mitigation and Co-Benefits of Mass Rapid Transportation' was also presented. Professor Dr Jamal Hisham Hashim, Visiting Professor of Environmental Health at United Nations University-International Institute for Global Health, discussed the statistics on how MRT trains helped reduce carbon emission. Amongst the notable topics that caught the attention of the audience was that based on research, the MRT service could help avoid five deaths per year caused by air pollution. This was because the MRT service would reduce the number of vehicles on the road. In addition, it would also limit the amount of stress and burden faced by an individual, thus reducing illnesses.

A performance audit report on the MRT Project was then shared by Europasia Engineering Services Sdn Bhd Lead Consultant Ms Geetha Kumaran. She provided statistics on previous audit reports at MRT Project sites and highlighted items that were needed to be improved in the future. These audits are conducted once in four months.

The final speaker for the day was Encik Nasrum Zubir from DOE Kuala Lumpur. He spoke about the Environmental Quality Act, 1974. One of the aspects that he highlighted was on the requirement of an Environment Impact Assessment which project owners at

work sites had to abide by. Examples of MRT Project sites were also shown to the audience and improvements and suggestions were given.

This conference was seen as a success as all attendees managed to garner new knowledge on the steps that were needed to be taken to maintain a sustainable environment. 🇲🇾



■ **GOOD CROWD:** The audience listening to talks given during the MRT Corp Environmental Conference 2018.



■ **THE RESEARCH:** Professor Dr Jamal Hisham Hashim, Visiting Professor of Environmental Health at United Nations University-International Institute for Global Health, going over his research paper about the environmental impact of the MRT service.

HAPPENINGS



WINNERS: The annual Centralised Labour Quarters Sports Carnival was organised on 27 July 2018 with WCT Holdings Berhad emerging as overall champions.



FUTURE GENERATION: A group of students from SMK St Gabriel visited the MRT Information Centre to learn more about the MRT Project on 28 August 2018.



KNOWLEDGE SHARING: A group from the Department of Highways, Thailand visited the MRT Information Centre to learn more about the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line on 31 October 2018.



SPECIAL INVITATION: MRT Corp was invited to present a paper at the Building & Construction Conference 2018 held at Kuala Lumpur Convention Centre on 14 November 2018.



FIRST-HAND EXPERIENCE: Minister of Federal Territories YB Tuan Haji Khalid Abd Samad took a ride on the MRT train on 21 November 2018 during the Buy Malaysia First showcase held at Pasar Seni MRT Station.



INTERNATIONAL COUNTERPART: The delegation from PT MRT Jakarta visited the MRT Corp Corporate Headquarters to learn more about the MRT Project on 23 November 2018.

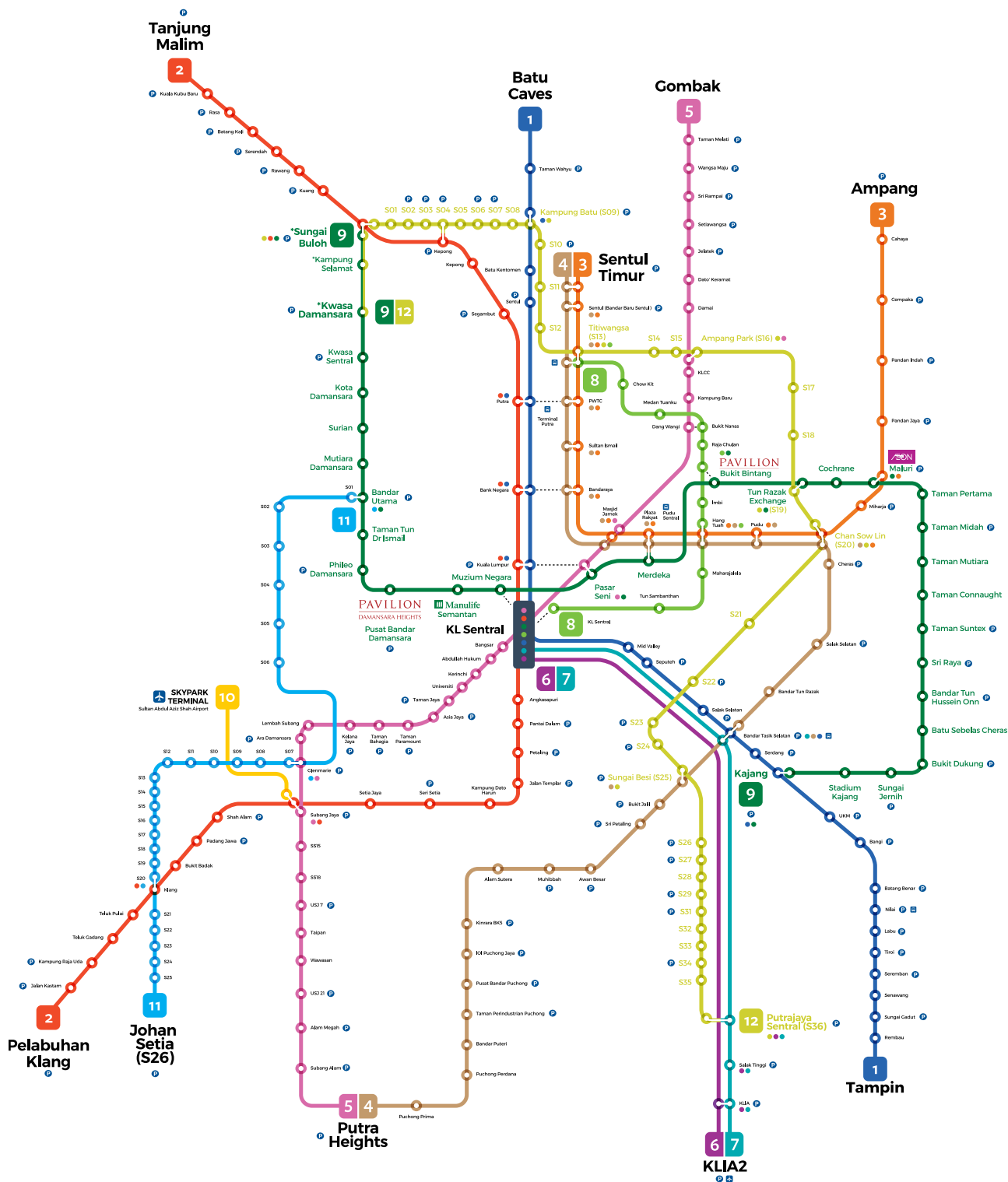


VICTORIOUS: The MRT Project emerged as winner in the Klang Valley Mayor Universal Access Awards, winning in the Transportation Hub category, on 4 December 2018.



ONE OF A KIND: For the first time in Malaysia, several piers on the MRT Sungai Buloh-Kajang (SBK) Line located near the Taman Tun Dr Ismail Station showcased four advertisement billboards, painted by graffiti artists on the morning of 30 July 2018.

KLANG VALLEY RAIL TRANSIT MAP



Legend

1 KTM Seremban Line	5 LRT Kelana Jaya Line	9 MRT Sungai Buloh-Kajang Line	Connecting Station	Airport Terminal
2 KTM Port Klang Line	6 ERL KLIA Ekspres Line	10 KTM Skypark Line	Interchange Station	Park and Ride
3 LRT Ampang Line	7 ERL KLIA Transit Line	11 LRT Bandar Utama-Klang Line	Rail Terminal	
4 LRT Sri Petaling Line	8 KL Monorail Line	12 MRT Sungai Buloh-Serdang-Putrajaya Line	Intercity Bus Station	

- * When operations commence in 2021, the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line will begin from Kwasa Damansara Station. This brings the total number of stations for the SSP Line to 38 including the Kwasa Damansara Station, Kampung Selamat Station and Sungai Buloh Station which are built under the MRT Sungai Buloh-Kajang (SBK) Line. Therefore, the SBK Line will also begin from Kwasa Damansara Station. This will reduce the number of stations for the SBK Line from 31 to 29 stations.